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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

DAVIS, D

ART UNIT

PAPER NUMBER

2754

DATE MAILED: 12/09/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/940,020

Applicant(s)
Hideaki et al

Examiner
David D. Davis

Group Art Unit
2754



☒ Responsive to communication(s) filed on Sep 28, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-58 is/are pending in the application.

Of the above, claim(s) 1-20, 24, 25, 27-46, and 49-58 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 21-23, 26, 47, and 48 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Sep 29, 1997 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Election/Restriction

1. Claims 1-20, 24, 25, 27-46, and 49-58 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species, the requirement having been traversed in Paper No. 4, filed September 28, 1998.

2. Applicant's election with traverse of Species VII (Figures 30-32) in Paper No. 4, filed September 28, 1998 is acknowledged. The traversal is on the ground(s) that

Species VI (Figures 28-29) shows subject matter which should be grouped together with Species VII . . . Further, claims 47 and 48 which correspond to the embodiment of Figure 30 recite a magnetoresistance effect device as shown in Figure 28 . . . applicant therefore, respectfully request the Examiner to group Species VI and VII together and examine claims 21-48.

This is not found entirely persuasive because claims 21-48 are not all directed to elected Species VII (Figures 30-32). After review of elected claim 47, claim 21 does appear to flow from claim 47. Since claim 21 flows from claim 47, claim 21 needs to be examined along with claim 47, and since claims 22, 23 and 26 which depend from claim 21 also appear to flow from *both* claim 47 and 21, claims 22, 23 and 26 should be included in the elected group, as well. Accordingly, claims 21-23, 26, 47 and 48, will be examined and claims 1-20, 24, 25, 27-46, and 49-58 are withdrawn from further consideration by the examiner.

The requirement is still deemed proper and is therefore made FINAL.

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Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. Figures 36 and 37 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
6. The disclosure is objected to because of the following informalities: The first full paragraph on page 11 is grammatically confusing. Appropriate correction is required.
7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

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Claim Objections

8. Claim 47 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim because claims 27 and 38 have been withdrawn from consideration. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

Claim Rejections - 35 U.S.C. § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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10. Claims 21-23, 26, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krounbi et al (US 5,018,037) in view of Chen et al (US 5,733,370). As per claim 21, Krounbi et al shows in figure 3d substrate 21 having a main surface. Magnetoresistive (MR) effect film 27 of Krounbi et al is formed on the main surface of substrate 21 and has a magnetic field detecting portion. The pair of hard bias magnetic field applying films 26 of Krounbi et al are disposed adjacent to both edge portions of the magnetic detecting portion. In column 2, line 56 through column 3, line 11, Krounbi et al discloses that bias magnetic field applying films 26 have hard magnetic films containing cobalt (Co) as a structural element.

As per claims 22, Krounbi et al shows in figure 3 hard magnetic film 26 containing Co as a structural element and it is considered to have Co(110) crystallographic orientation oriented perpendicular to the surface. As per claim 23, Krounbi et al discloses in column 2, line 56 through column 3, line 11 that hard magnetic film 26 is composed of CoPt or CoCrPt. As per claim 26, bias magnetic field applying films 26 are shown in figure 3d to be abutted against MR effect film 27.

However, as per claims 21, Krounbi et al is silent as to bias magnetic field applying films having hard magnetic films containing cobalt (Co) as a structural element being a bi-crystal structure. As per claim 48, Krounbi et al is also silent as to upper and lower shields in a combined or merged head having poles.

Chen et al discloses column 3, lines 37-50 magnetic field applying films having hard magnetic films containing cobalt (Co) as a structural element being a bi-crystal structure, and

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official notice is taken of the fact that upper and lower shields in a combined or merged head having poles are notoriously old and well known in the magnetic head art.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the cobalt magnetic field applying films having hard magnetic films containing cobalt (Co) as structural element of Krounbi et al with a bi-crystal structure as taught by Chen et al.

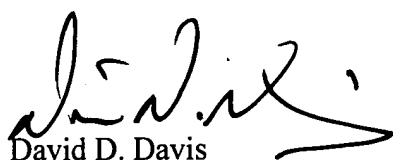
The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to provide magnetic field applying films having hard magnetic films containing cobalt (Co) as a structural element with a bi-crystal structure to suppress Barkhausen noise in the magnetic head. See column 3, lines 37-50 of Chen et al.

It also would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the magnetic read MR head of Krounbi et al with upper and lower shields in a combined or merged head having poles as taught in the art.

The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to provide a magnetic read MR head with upper and lower shields in a combined or merged head having poles so recording can take place, as well as reproducing.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Davis whose telephone number is (703) 308-1503.

A handwritten signature in black ink, appearing to read 'D. Davis', with a long horizontal flourish extending to the right.

David D. Davis
Patent Examiner
December 5, 1998